Patent Claims

1. A rotor (3) for a turbo-engine,
with a hollow shaft (13) installed coaxially to its rotational axis, which on both sides on the end face is supported on two axially oppositely disposed sections of the rotor (3) and encloses an inner cavity (51) and in the axial direction of the rotor (3) is formed from a plurality of abutting rings (43) so that the rings (43) reciprocally abutting and abutting upon the sections externally define the cavity (51),
characterized in that,
each ring (43) is constructed I-shaped in cross section, wherein the web (47) of the I-shape extends in the radial direction of the rotor (3).

2. The rotor (3) as claimed in claim 1,
characterized in that,
the rotor (3) has at least one tension bolt (7,8) extending parallel to the rotational axis and
that the sections of the rotor (3) are each formed by a disk (26,39), especially by a compressor disk (26) and a turbine disk (39),
wherein the at least one tension bolt (7,8) for the clamping of the disks (26,39) and the rings (43) extends through these.

3. The rotor (3) as claimed in claim 2,
characterized in that,
the tension bolt (7) extends centrally through the disks (26,39) and the rings (43).

4. The rotor (3) as claimed in claim 2,
characterized in that,

the rotor (3) has a plurality of tension bolts (8) spaced away from the rotational axis, which extend through the disks (26,39)

and the rings (43).

5. The rotor (3) as claimed in claims 1, 2, 3 or 4, characterized in that, each ring (43) and each section has positive-locking means for the transmission of the torque of the rotor (3) from one of the two sections to the oppositely disposed section.

6. The rotor (3) as claimed in claim 5, characterized in that, the means for the transmission of the torque to the end faces (55) of the ring (43) and to those of the sections are constructed in the fashion of a Hirth-type toothing.

7. The rotor (3) as claimed in one of the claims 1 to 6, characterized in that, a flange (45,46) extending in each case in the axial direction is installed on each end of the web (47) so that between two adjacent rings (43) and between their radially inner flanges (46) and their radially outer flanges (45) an additional cavity (66) for the guiding of a cooling fluid is formed.

8. The rotor as claimed in claim 7, characterized in that, the cavities (66) are at least partially in flow communication with one another by passages (72) located in the webs (47).

9. The rotor as claimed in claim 7 or 8, characterized in that, as cooling fluid compressor air is feedable into the additional cavity (66) and is extractable in the region of the turbine stage.

10. The rotor (3) as claimed in one of the claims 1 to 9, characterized in that,
the rings (43) on their oppositely disposed flanges (45) have areas upon which the Hirth-type toothing is provided.

11. The rotor (3) as claimed in one of the claims 1 to 10, characterized in that,
the cavity (51) in the axial direction is flow-washable by a cooling fluid and
the rings (43) and the sections have labyrinth-like sealing means for the sealing of the cavity (51).

12. A turbo-engine with a rotor (3),
characterized in that,
the rotor (3) is constructed as claimed in one of the claims 1 to 11.

13. The turbo-engine as claimed in claim 10,
characterized in that,
the turbo-engine is constructed as a gas turbine (1).

14. The turbo-engine as claimed in claim 11,
characterized in that,
the gas turbine (1) has in series along the rotor (3) a compressor (5), at least one combustion chamber (6) and a turbine unit (11), wherein the one of the two sections is formed by a compressor disk (26) installed in the compressor (5) and the other section is formed by a turbine disk (39) installed in the turbine unit (11).